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**LINEAR ALGEBRA  
AND ITS  
APPLICATIONS**

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## Preface

This volume of *Linear Algebra and its Applications* is dedicated to Peter Lancaster, as a tribute to a distinguished mathematician and a friend, on occasion of his 75th birthday that falls on November 14, 2004.

The volume features 21 original research papers dedicated to Peter Lancaster and a bibliography of his recent publications. It also contains a collection of personal notes, one of them written by Peter's daughters (Jill Lancaster, Jane Lancaster and Joy Warden) and nine by several of his friends.

We thank all those who contributed to the volume, making it a memorable occasion for all involved. Our special thanks are due to Peter's daughters, the only nonmathematicians among the contributors, and to Hans Schneider, the Editor-in-Chief of *Linear Algebra and its Applications*, who initiated and supported the volume from its inception.

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## Peter Lancaster's publications since 1994<sup>1</sup>

### Books and Lecture Notes

- P. Lancaster, L. Rodman, Algebraic Riccati Equations, Oxford University Press, 1995.
- P. Lancaster, K. Salkauskas, Transform Methods in Applied Mathematics: An Introduction, John Wiley, New York, 1996.
- P. Lancaster, Lecture Notes on Linear Algebra, Control, and Stability, Centro Internacional de Matemática, Coimbra, 1998, 59 pp.; second ed., Department of Mathematics and Statistic, University of Calgary, 1999, 72 pp.

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<sup>1</sup> Earlier publications were listed in the bibliography in “Operator Theory: Advances and Applications, vol. 130, Birkhäuser Verlag, 2001”, dedicated to Peter Lancaster on the occasion of his 70th birthday.

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## Peter Lancaster's collaborators

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## Peter Lancaster's doctoral students

- M.V. Patahbirahman, A spectral decomposition for a polynomial operator, 1967.  
J.G. Rokne, Practical and theoretical studies in numerical error analysis, 1969.  
D.S. Watkins, Blending functions and finite elements, 1974.  
J.R. Terray, Numerical and theoretical studies of eigenvalue problems of mathematical physics, 1975.  
G.W. Cross, Square roots of linear transformations, 1975.  
Farid O. Farid, Spectral properties of diagonally dominant infinite matrices, 1989.  
Qiang Ye, Variational principles and numerical algorithms for symmetric matrix pencils, 1989.  
P. Zizler, Linear operators in Krein spaces, 1995.  
Guo Chun Hua, Analysis and modification of Newton's method for algebraic Riccati equations, 1998.  
Fei Zhou, Perturbation theory for analytic matrix functions, 2004.